

## INTERNATIONAL SEARCH REPORT

PCT/GB 03/01882

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/315 C07K16/12 C12N15/62 C12Q1/68 A61K38/17

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, Sequence Search, WPI Data, MEDLINE, BIOSIS, EMBL

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 02 34771 A (MARGARIT Y ROS IMMACULADA ;CHIRON SPA (IT); GRANDI GUIDO (IT); MAS) 2 May 2002 (2002-05-02) cited in the application see SEQ ID NOs 955, 956, 8541, 8542 and 10967. abstract; claims 1,7,8	1-21, 23-28
P,X	WO 02 092818 A (BUCHRIESER CARMEN ;KUNST FRANK (FR); POYART CLAIRE (FR); COUVE ELI) 21 November 2002 (2002-11-21) see Sequences 132, 1732, 3902 and 6038 abstract	1-21, 23-28
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*C\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*Z\* document member of the same patent family

Date of the actual completion of the international search

14 August 2003

Date of mailing of the international search report

14.11.03

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	DATABASE EMBL 'Online! 2 September 2002 (2002-09-02), XP002251284 accession no. EBI Database accession no. AE014193 Streptococcus agalactiae 2603V/R section 3 of 100 of the complete genome. abstract	1-21, 23-28
X	WO 99 42588 A (BIOCHEM VACCINS INC ; BRODEUR BERNARD R (CA); CHARLEBOIS ISABELLE () 26 August 1999 (1999-08-26) abstract; claim 26; figure 7B page 154	1-21, 23-28
X	WO 99 26969 A (BEATSON SCOTT ALEXANDER ; SIMMONDS ROBIN STUART (NZ); UNIV OTAGO (N) 3 June 1999 (1999-06-03) abstract page 37 - page 38 page 4 - page 5; claims 7,8	2-6, 9-21, 26-28
X	DATABASE EMBL 'Online! 19 March 1999 (1999-03-19), XP002251285 accession no. EBI Database accession no. aax13129 Enterococcus faecalis genome contig SEQ ID NO:192. abstract	9-13
X	DATABASE SWISSPROT 'Online! 1 October 2000 (2000-10-01), XP002251286 accession no. EBI Database accession no. q9pgx9 Hypothetical protein Xf0167 abstract	3,6,13
A	WO 01 32882 A (HANNIFFY SEAN BOSCO ; LE PAGE RICHARD WILLIAM FALLA (GB); WELLS JER) 10 May 2001 (2001-05-10) the whole document	1-21, 23-28
A	STALHAMMAR-CARLEMALM M ET AL: "THE R28 PROTEIN OF STREPTOCOCCUS PYOGENES IS RELATED TO SEVERAL GROUP B STREPTOCOCCAL SURFACE PROTEINS, CONFER PROTECTIVE IMMUNITY AND PROMOTES BINDING TO HUMAN EPITHELIAL CELLS" MOLECULAR MICROBIOLOGY, BLACKWELL SCIENTIFIC, OXFORD, GB, vol. 33, no. 1, July 1999 (1999-07), pages 208-219, XP000964694 ISSN: 0950-382X abstract	1-21, 23-28
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>MICHEL J L ET AL: "Cloned alpha and beta C-protein antigens of group B Streptococci elicit protective immunity"</p> <p>INFECTION AND IMMUNITY, AMERICAN SOCIETY FOR MICROBIOLOGY. WASHINGTON, US, vol. 59, no. 6, June 1991 (1991-06), pages 2023-2028, XP002107260</p> <p>ISSN: 0019-9567</p> <p>abstract</p> <p>-----</p>	<p>1-21, 23-28</p>

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## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 22  
because they relate to subject matter not required to be searched by this Authority, namely:  
Although claim 17 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 26  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
see PCT/ISA/210 annex

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Claims Nos.: 22

Claim 22 relates to subject matter for which no search is required according to Rule 39.1(v) PCT.

Given that the claim is formulated in terms of such subject matter or merely specifies features relating to presentation of information.

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Continuation of Box I.2

Claims Nos.: 26

Present claim 26 relates to compounds defined by reference to a desirable characteristic or property, namely that they bind to a protein as referred to in claim 1 - 3.

The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compounds by reference to a result to be achieved and in addition also by reference to a process for their preparation ("product-by-process"). Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to antibodies.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: Claims 1 - 21, 23 - 28 (all partially)

A protein comprising an amino acid as depicted in SEQ ID NO:2 and the subject matter relating to said protein, respectively the nucleic acid molecule as depicted in SEQ ID NO:1 and the subject matter relating to said molecule.

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Invention 2 - 686: Claims 1 - 21, 23 - 28 (all partially)

As for subject 1, but respectively relating to SEQ ID NOs: 3 - 1372 (i.e. invention 2, corresponding to the amino acid sequence SEQ ID NO:4 and the nucleic acid molecule SEQ ID NO:3;.....invention 686, corresponding to the amino acid SEQ ID NO:1372 and the nucleic acid molecule SEQ ID NO:1371).

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0234771	A	02-05-2002	AU 1412702 A	06-05-2002
			CA 2425303 A1	02-05-2002
			EP 1328543 A2	23-07-2003
			WO 0234771 A2	02-05-2002
WO 02092818	A	21-11-2002	FR 2824074 A1	31-10-2002
			WO 02092818 A2	21-11-2002
WO 9942588	A	26-08-1999	AU 2505999 A	06-09-1999
			CA 2321106 A1	26-08-1999
			WO 9942588 A2	26-08-1999
			CN 1297482 T	30-05-2001
			EP 1054971 A2	29-11-2000
			HU 0102304 A2	28-10-2001
			JP 2002507396 T	12-03-2002
			NO 20004161 A	19-10-2000
			TR 200002437 T2	21-11-2000
			US 2003031682 A1	13-02-2003
			ZA 9901325 A	20-08-1999
WO 9926969	A	03-06-1999	AU 748950 B2	13-06-2002
			AU 1892699 A	15-06-1999
			WO 9926969 A1	03-06-1999
			NZ 505282 A	20-12-2002
WO 0132882	A	10-05-2001	CA 2382455 A1	10-05-2001
			CN 1377410 T	30-10-2002
			EP 1214417 A2	19-06-2002
			WO 0132882 A2	10-05-2001
			JP 2003527100 T	16-09-2003
			US 2003170782 A1	11-09-2003